

A FOURTH SPECIES OF *ISCHNOMERA* STEPH. (COL.:
OEDEMERIDAE) IN BRITAIN

By A. A. ALLEN*

In 1980 P. Skidmore and F. A. Hunter brought forward a third British species of this genus, *I. cinerascens* Pand., a very interesting addition to our fauna. I am herewith able to add yet another, so that we now possess all of the four species known in central Europe — the latest having been recognized only in the last eight years.

My attention was first drawn to the matter on seeing the note by Dr. G. A. Lohse (1982) pointing out that the familiar *Ischnomera* (*Asclera*) *caerulea*⁽¹⁾ L. of European authors, also known on the Continent as *I. (A.) cyanea* F., was actually a mixture of two species, and figuring the clearly dissimilar male genitalia; females being, apparently, indistinguishable. The original discovery had been made by G. Dahlgren three years earlier. Thinking that our British *I. 'caerulea'* might possibly include both species, I checked the material in my collection, which revealed (as expected) only the commoner of the two in most parts of Europe. Since then, however, four males among some unmounted beetles from Windsor Great Park (19.v.36, 8.v.54) proved on dissection to belong to the other species — Lohse's figures of the aedeagi sufficing for instant recognition. Later, two further males from the same productive locality were detected in my friend Professor J. A. Owen's collection, taken within the last decade or so. All the above were beaten from hawthorn blossom in various parts of the Park. Other males collected in the area (Park and Forest) by both of us at different times belong to the commoner species, as do those from elsewhere.

The nomenclature of this pair of species has been involved in some little confusion. Linnaeus described his *Cantharis caerulea* in 1758, Fabricius his *Necydalis cyanea* in 1792, the two being up to lately treated as synonymous; both names, however, are employed in Continental literature, the latter of them especially in the past half-century (for no very clear reason). In 1976 Dahlgren described *Asclera graeca* as a new species from Greece, contrasting it mainly on aedeagal characters with '*cyanea*' (*caerulea*) and with *cinerascens*. Order finally emerged when in 1979 the same author published his important discovery that the 'species' known as either *caerulea* L. or *cyanea* F. in fact comprised two, differing very obviously in their aedeagi, the more generally common of them being identical with *graeca* Dlg. Whilst it is impossible to be sure which species the early authors had before them, Dahlgren has very properly, on the basis of probabilities, synonymized

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(1). Continental authors favour the spelling *coerulea*, but Linnaeus appears to have written *caerulea* (cf. Pope, 1977: 69).

his *graeca* with *cyanea*; and assigned the name *caerulea* to the other, which, being the common Swedish species, Linnaeus may be assumed to have had before him.

The distribution of the two forms across south-east and middle Europe, as indicated by the ample material studied by Dahlgren (1979: 65-6), is broadly similar but shows certain striking differences in the north-western part of their range. Thus, the true *I. caerulea* (the rarer species in Germany) does not appear to occur at all in Denmark, where *I. cyanea* is widespread; yet in Sweden, *caerulea* is dominant, *cyanea* being known (at least up to 1979) from one locality only. In Britain, the indications hitherto are that much the same obtains as in Germany. Mr. Peter Skidmore has been unable to find the true *caerulea* among numerous examples from midland and northern localities that he has dissected; and indeed this species may well prove to be an old-forest relict with us, confined to Windsor Forest (like certain other such species) and perhaps to one or two comparable areas. At present, however, this is mere conjecture. Lohse (p.124) notes the significant point that whereas *I. cyanea* develops in almost any species of rotting wood, he has so far bred *caerulea* exclusively from oak.

Unfortunately, no definite character can yet be given for separating the two species externally. Nevertheless, the six British males of *I. caerulea* that I have been able to examine do seem to show a small difference, worth noting in the hope that further experience may confirm its usefulness. Should this be the case, it may prove peculiar to the British race of *caerulea*, for otherwise it would surely have been noticed by Dahlgren and Lohse. It can be expressed as follows:—

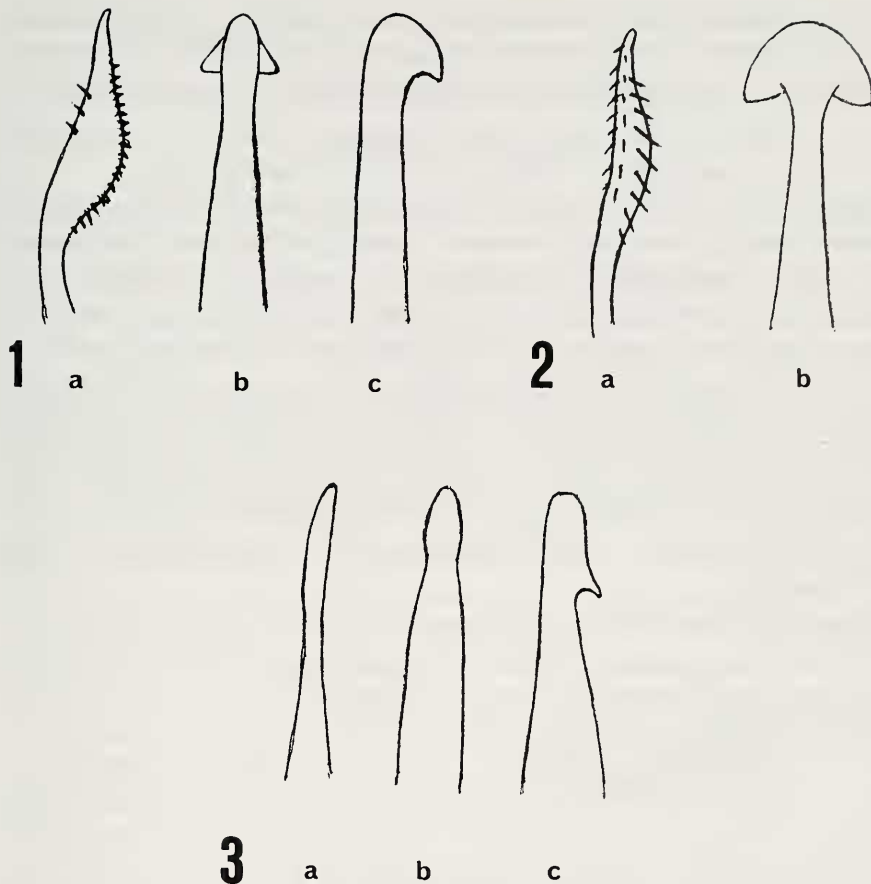
The two fine, shining, raised longitudinal lines on each elytron between suture and shoulder

(1) equally distinct throughout, not noticeably weaker in the apical half (colour of elytra usually a little brighter).....*cyanea*.

(2) becoming indistinct or effaced behind, hardly traceable in the apical half or more (colour of elytra usually a little duller)*caerulea*.

The difference is best appreciated at low magnifications, e.g. a $\times 8$ or $\times 10$ hand lens.

With so slight a character, attested as yet in so few specimens, one must be prepared to find individuals where the condition is intermediate or indeterminate. Using it with due caution, however, I have tentatively separated females of the two species among Prof. Owen's material from Windsor. Such are a female *caerulea* taken 28.v.87, probably with a male of the same date; and a female *cyanea* from crab-apple, vi.76. More questionable is a female, apparently *caerulea* to judge by the elytral character, found by Prof. Owen at Nonsuch Park, Ewell (near Epsom, Surrey) in elm, iii.76. This record can only be regarded as provisional, pending the occurrence of a male at the same place. The locality has a few oaks, and at the time of capture plenty of elm, now much reduced.



Figs. 1-3. Aedeagi of *Ischnomera* spp. (apices only), largely after Dahlgren and Lohse; slightly schematic. a, paramere, lateral; b, median lobe, dorsal; c, ditto, lateral. 1, *I. caerulea*; 2, *I. cinerascens*; 3, *I. cyanea*. (The paired sub-apical teeth of the median lobe — of which only one appears in the strictly lateral views — may in *cyanea* (3b) sometimes be visible on each side in dorsal view, as pointed out by Dahlgren. For other figures of *cinerascens*, etc., see Skidmore and Hunter.)

Though these two species are manifestly very closely related, it is a remarkable fact that in aedeagal structure they diverge so as to present strong affinities each towards one of the two remaining mid-European species of the genus. Thus, the aedeagus of *caerulea* resembles that of *cinerascens* except in being much shorter, both having swollen and spinose parameres; though beyond that there are marked differences. The *cyanea* aedeagus on the other hand, in its simple parameres⁽²⁾ and the form of its apex, is like that of *I. sanguinicollis* F., but again is much shorter (cf. Skidmore and Hunter, figs. 2, 3). (It must not be overlooked

(2) The parameres in these species being united by a common stem, it would be more strictly correct to speak of a single forked paramere (such as is found in various *Philonthus* sp., for example).

shorter (cf. Skidmore and Hunter, figs. 2, 3). (It must not be overlooked that the *cyanea* of Dahlgren's 1976 paper is really *caerulea*, whilst the *caerulea* of Skidmore and Hunter's paper is *cyanea* as now understood.)

In one detail I cannot quite agree with the latter writers, when they state as a key-character for *cyanea* (p.129) that the aedeagus is ". . . strongly curved". The figure they give suggests that, at the very least, the word 'strongly' should be omitted. Indeed, in the several specimens that I have examined (all southern) the aedeagus is straight, or practically so. Perhaps therefore this particular feature may vary in different populations, and should be ignored for diagnostic purposes.

Collectors should keep a close watch for *I. caerulea* and extract the aedeagus of all the wholly green or blue *Ischnomera* males they find, especially in areas of old forest or parkland. It may be said that, very generally, males are smaller and more parallel-sided than females.

By way of summary, it may be useful to recapitulate the synonymy of the two species:—

- I. caerulea* (Linnaeus 1758), auct. Europ. partim
 = *cyanea* sensu Dahlgren 1976, nec 1979
- I. cyanea* (Fabricius 1792), auct. Europ. partim
 = *caerulea* auct. Brit.
 = *graeca* Dahlgren 1976.

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[Since writing the above, I have received from Mr J. Cooter a male *I. caerulea*, one of a few taken by him in May at Moccas Park NNR, Herefords., from hawthorn flowers, with *I. cyanea*. All four of our species are now known from this prolific old forest site.—A.A.A.]